

## Video Door Phone Outdoor Camera -- KW-138EA User's Manual



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## PRODUCT INTRODUCTION

Thank you for purchasing our products of building intercom system series. Please read the instructions carefully and follow the directions before install the products. Any problem regarding to the product, please query your supplier.

### GENERAL FEATURES:

- Simple wiring, only use one ethernet cable to connect the whole system, reduce the cost of installation and maintenance.
- Press the relevant room number to talk with indoor monitor directly.
- Indoor unit could monitor the outdoor condition and hear the voice.
- Unlock the door by ID card, password, or remote unlock from indoor monitor.
- Display the current time and operation status on the outdoor camera
- Able to change the unlock password with your need
- Max. support 64 units indoor monitor (support totally 16 layers, each layer with 4 users)
- Max. support 1000pcs ID card
- Light induction, auto switch the external connected lamps according to the outdoor light intension. (to reach this function, need connect KW-516EA)
- Support connecting guard room, use 4 wires connection terminal.



To avoid the risk of electric shock, please don't remove cover or back. Please ask professional person if maintenance needed.



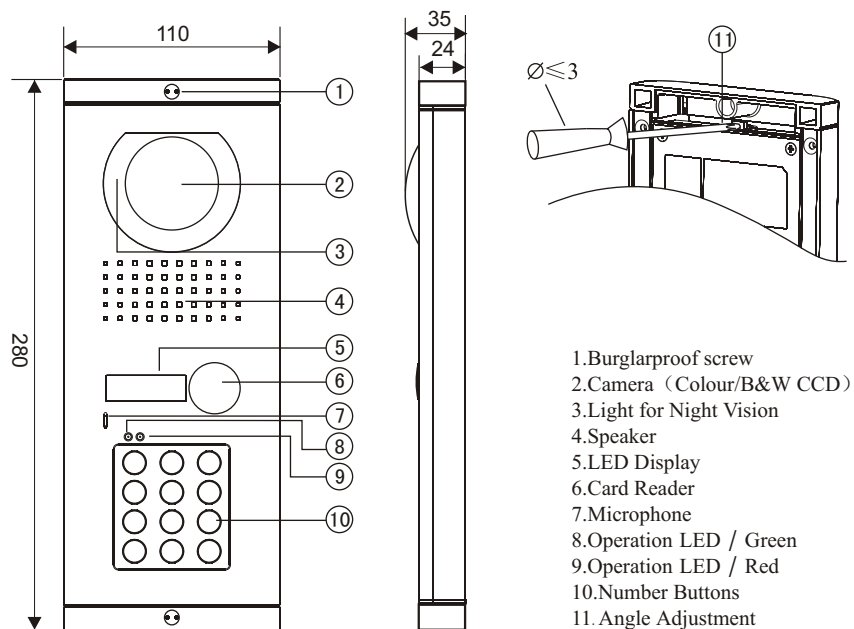
Remind users that important operation and maintenance guides are included in the attached user's manual.

\* KENWEI reserves the right to change or modify design, features, functions and specifications without any prior notice for the improvement and promotion of products quality.

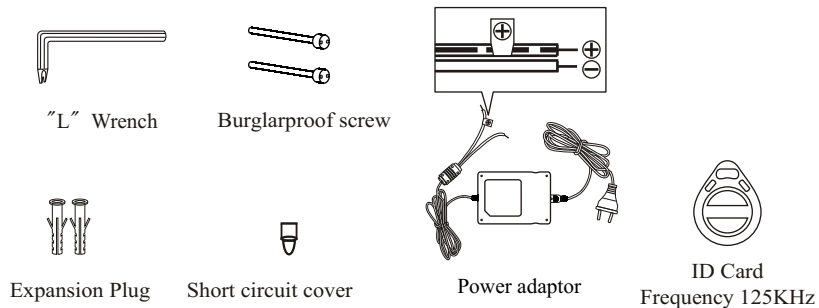
# FEATURES AND PARTS

## KW-138EA FEATURES AND PARTS

(Unit:mm)

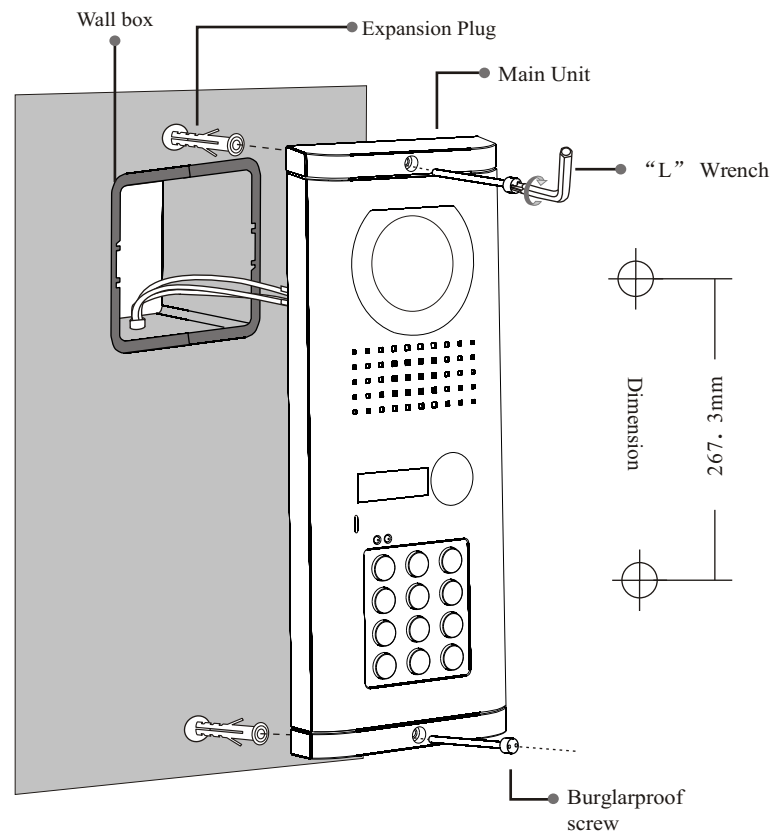


### Accessories:



# INSTALLATION

## KW-138EA SKETCH MAP

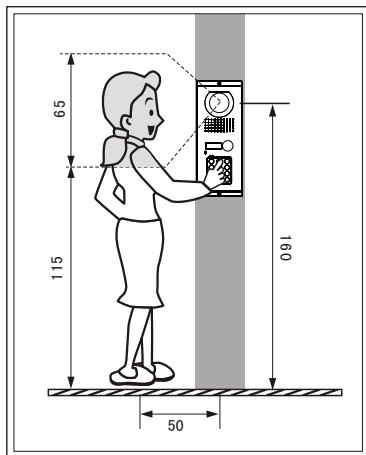


### Installation step:

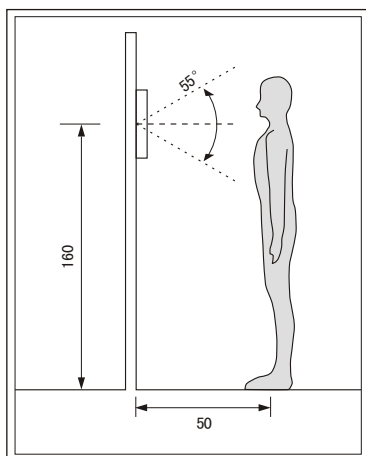
1. At the selected mounting location, (the dimension as the picture show), fixed 2 expansion plug.
2. Connect the wire correctly.
3. Use the "L" wrench to tight the unit with screws. The installation has done.

## INSTALLATION RANGE

(Unit: cm)



Installation range



Camera angles (Vertical)

## INSTALLATION ATTENTION

### 1. Do not expose the unit to sunshine or rain:

Even if you do not use it, don't expose it to sunshine or rain.

### 2. Do not expose to intense light:

Spotlight may cause stain or striation in the screen.

### 3. Do not disassemble the unit by yourself:

Improper disassembly may damage the unit or cause electric shock.

### 4. Do not splash water on the unit:

Install the unit in dry place. In case that the unit gets wet, turn off the unit and contact your dealer.

### 5. Check the ambient temperature and humidity:

Avoid using the unit where the temperature is hotter or colder than specified, otherwise the internal parts may get affected. Special care is required to use the unit at high temperature and humidity.

### 6. In case of trouble:

If any trouble occurs while you are using the unit, turn off the power and contact your dealer to avoid worse problem or unpredictable accident.

### 7. About operation:

Keep the unit away from magnetic equipments such as microwave oven or big speaker. If the unit will not be used for a long time, please switch it off.

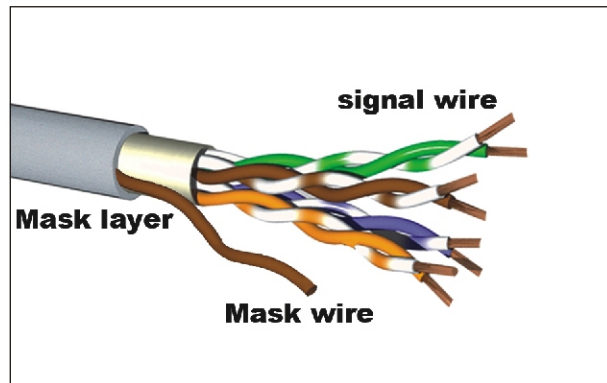
### 8. About clean:

Use soft cloth to clean the unit. Do not use any impregnant, such as alcohol, benzene. If you have any problem, please contact your dealer.

### \* Remark:

When you choose the place to install the unit, please pay attention to:  
Keep sufficient space for ventilation and easy communication.  
Keep sufficient space to adjust while installing.  
Don't put hot resource under the unit.

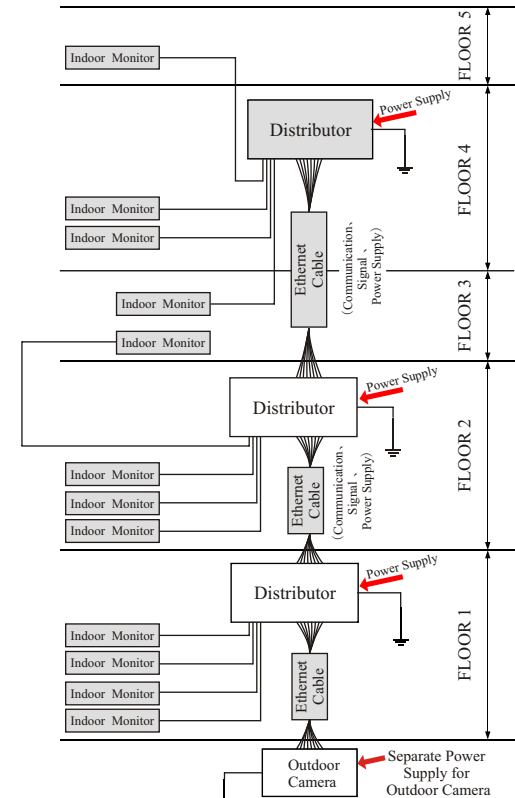
# SYSTEM WIRING AND SETTING



1. As the picture shows, the Ethernet cable should be with mask layer, to avoid signal interference.
2. Then check the cable DC resistance:
  - Take out cable 1 side: O/W $\longleftrightarrow$ O, G/W $\longleftrightarrow$ B, B/W $\longleftrightarrow$ G, Br/W $\longleftrightarrow$ Br 4 wires short circuit
  - Take out cable another side: O/W $\longleftrightarrow$ O, GW $\longleftrightarrow$ B, B/W $\longleftrightarrow$ G, Br/W $\longleftrightarrow$ Br 4 wires, check DC resistance between them.  
The resistance between each wires should be less 75ohm / 100m.
3. Prohibit to use the Ethernet cable if one of the above conditions cannot be matched.

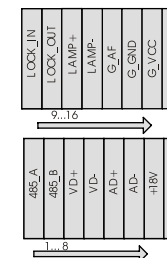
## SYSTEM WIRING SKETCH

- The outdoor unit can be connected to any 4 wired indoor monitor we produce.
- Each indoor monitor has their own power supply, or by distributor KW-838B, no need supply power from outdoor camera, which reduce the outdoor camera's power overload.
- Use Ethernet cable to connect between outdoor camera and distributor.
- If one of distributors is damaged, it will only affect the indoor monitors which connect with it, the other monitors would be worked as normal.
- Transmission the power, audio, and video in one Ethernet cable, just connect them as the Sketch 1 shows.



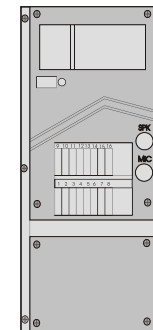
Sketch 1

- As showed in Sketch 1, monitors in different floors can be connected to one distributor. (each distributor support 4pcs monitor)
- The last distributor (gray one in Sketch 1) should be set specially, please refer to Sketch 9, Sketch 10 and Form 3.



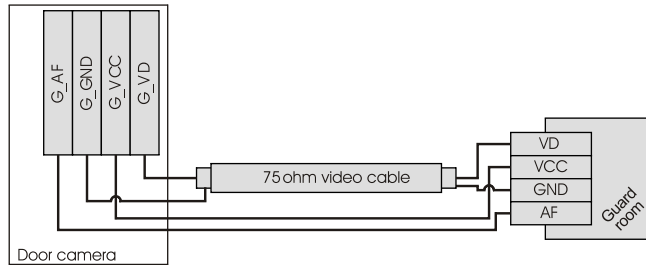
Sketch 2

Connection Terminals of Outdoor Camera



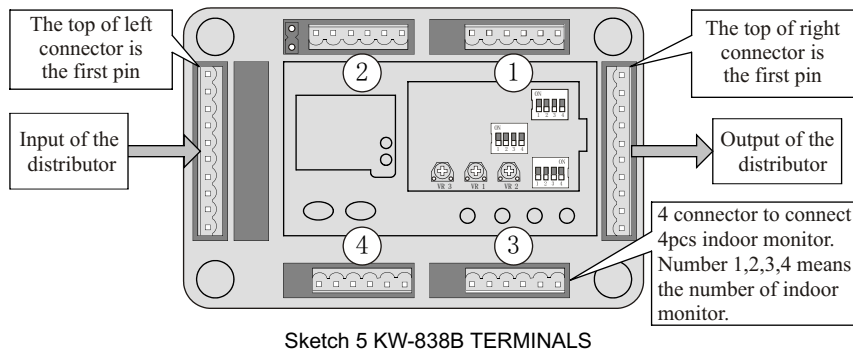
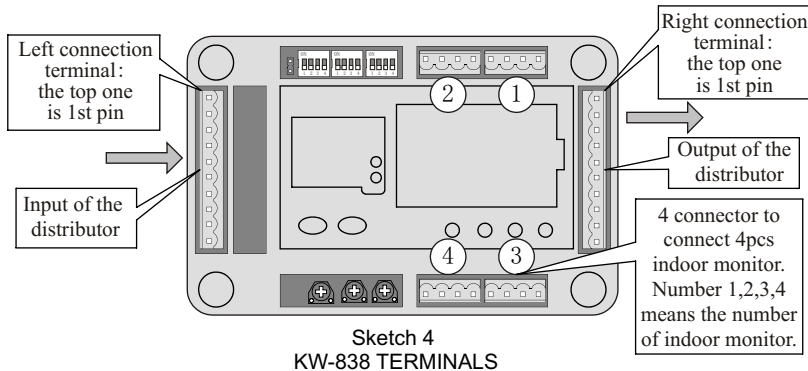
Sketch 3

## GUARD ROOM CONNECTION



Use 4 wires standard connection terminal to connect guard room with outdoor camera. We must use 75Ω video cable to connect because of the long distance between guard room and outdoor camera. Could choose our 4 wires indoor monitor as guard room.

## DISTRIBUTOR CONNECTION TERMINAL



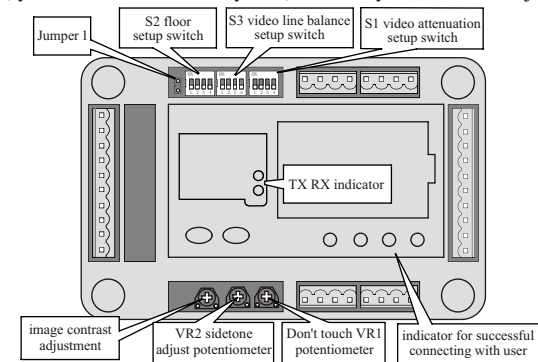
Distributor main connection terminal to outdoor camera / another distributor	<p>Sketch 6</p>	<ul style="list-style-type: none"> <li>There are 2 main connection terminal, but with different connection sequence.</li> <li>The left input terminal connect to outdoor camera or its front distributor, the right output terminal connect to its next distributor.</li> <li>Both of terminals could be used under more distributor condition.</li> </ul>
Distributor connection terminal to indoor monitor	<p>Sketch 7 KW-838 Connection terminal to indoor monitor</p>	<ul style="list-style-type: none"> <li>Each distributor KW-838 have 4 connection terminal for indoor monitor. They are the same function.</li> <li>1 distributor control 4 indoor monitors, the monitor's number is refer to the number on distributor.</li> </ul>
Distributor connection terminal to indoor monitor	<p>Sketch 8 KW-838B Connection terminal to indoor monitor</p>	<ul style="list-style-type: none"> <li>Each distributor KW-838B have 4 connection terminal for indoor monitor. They are the same function.</li> <li>1 distributor control 4 indoor monitors, the monitor's number is refer to the number on distributor.</li> <li>KW-838B has 2 more connection terminal than KW-838. One is DC12V, another one is GND, they supply the power to indoor monitors.</li> </ul>

Form 2

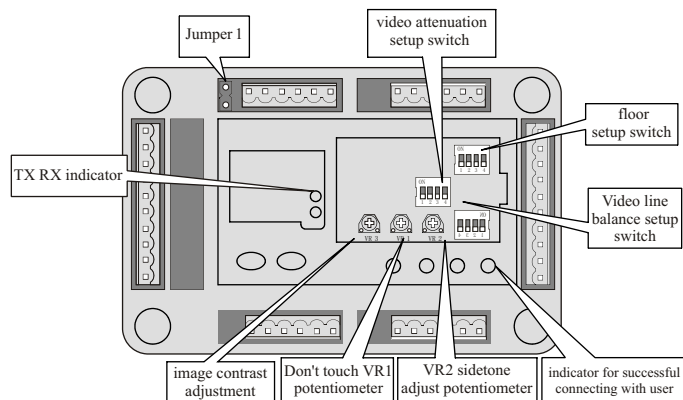
## CONFIGURATION OF DISTRIBUTOR

### Jumper

Open the distributor, you can see the main body of it, with many connectors and jumpers.




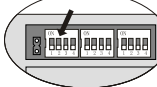

Sketch 9 KW-838


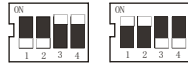




Sketch 10 KW-838B

We have 2 kinds of distributor, KW-838 and KW-838B, the difference are:





1. KW-838: each indoor monitor it connect, need connect their own power supply.
2. KW-838B: all of indoor monitors it connect, no need connect their own power. Monitor's power are supplied by KW-838B.

<p>Jumper 1, 485 terminal matching resistance setup.</p> 	<p>If this distributor is the last one in the system, like the grey one in picture 1, the jumper should be short circuit, or open circuit. The default is open circuit.</p>
<p>Floor number setup.</p> 	<p>Details please see "Floor Number Setting"</p>
<p>Video line balance setup switch. Each terminal has different function, pay attention to the direction of ON during setting.</p> 	<ul style="list-style-type: none"> <li>• 3~4: VIDEO ⊕, ⊖ : 75ohm GND short circuit position. This terminal you can set all of OFF, or all of ON. Usually set all of OFF.</li> <li>• 2: VIDEO ⊕, ⊖ 75ohm video input load. If this distributor is the last one in the system, like the grey one in the picture 2, the jumper should be set ON. The default is open circuit.</li> <li>• 1: Video high frequency strengthen. Make this terminal short circuit, the image could be more clear. The default jumper set ON.</li> </ul>

<p>Video attenuation setup switch. Each terminal has different function, pay attention to the direction of ON during setting.</p> 	<ul style="list-style-type: none"> <li>• 1~2: Use for enhancing the video signal range. Valid when it is set ON. Usually use for long Ethernet cable. 1 and 2 should be set OFF or ON at the same time.</li> <li>• 3~4: Use for weakening the video signal range. Valid when it is set ON. Usually use for short Ethernet cable. 3 and 4 should be set OFF or ON at the same time.</li> <li>• This switch can be only set as this 2 way.</li> </ul> 
<p>image contrast adjustment</p> 	<p>After installation, adjust this potentiometer for image quality. With video attenuation setup switch, you can adjust the image quality to the best.</p>
<p>Sidetone adjust potentiometer</p> 	<p>Adjust the volume of sidetone, suitable for different indoor monitor.</p>
<p>Tx LED</p>	<p>If it flashes, means the indoor monitor and outdoor camera is talking, no need pay attention to this status.</p>
<p>Rx LED</p>	
<p>LED of successful connecting</p>	<p>If the outdoor camera is talking with one of indoor monitor, this indicator is lighting on.</p>

Form 3

## Video Setup

<ul style="list-style-type: none"> <li>• If this KW-838 is the last distributor of the system, which like the gray one showed in sketch 1, or when there is only one KW-838 in the system, the video line balance setup switch should be dialed as this</li> </ul>	
<ul style="list-style-type: none"> <li>▪ Otherwise the switch should be dialed as this:</li> </ul>	
<ul style="list-style-type: none"> <li>• If the distance between one KW-838 and outdoor camera is within 60m, the video attenuation setup switch should be dialed as this:</li> </ul>	
<ul style="list-style-type: none"> <li>▪ Otherwise the switch should be dialed as:</li> </ul>	
<ul style="list-style-type: none"> <li>• After meet the above 4 requirement, if the contrast is too high, usually because of the high range video signal. You can adjust the image contrast potentiometer clockwise, to make the good image quality.</li> <li>• If the contrast is lower, and the picture is distorted vertically, usually because of the low range video signal. You can adjust the image contrast potentiometer counter-clockwise, to make the good image quality.</li> </ul>	



### Warning:

- Do not adjust the potentiometer VR1 on picture 9/10 or it may cause the malfunction of the system.  
No need adjust after factory setting.

### Floor number setting

Setup the floor number (S2 switch) as form 4 shows. (for example: set the 4 dial switch to ON position, means this is 1st floor.)

Cannot setup them during talking or monitoring, or it will make improper communication problem. No need to power again after setup.

4 dial switch	Floor No.	Position of dial switch			
		1	2	3	4
	1	ON	ON	ON	ON
	2	ON	ON	ON	OFF
	3	ON	ON	OFF	ON
	4	ON	ON	OFF	OFF
	5	ON	OFF	ON	ON
	6	ON	OFF	ON	OFF
	7	ON	OFF	OFF	ON
	8	ON	OFF	OFF	OFF
	9	OFF	ON	ON	ON
	10	OFF	ON	ON	OFF
	11	OFF	ON	OFF	ON
	12	OFF	ON	OFF	OFF

	13	OFF	OFF	ON	ON
	14	OFF	OFF	ON	OFF
	15	OFF	OFF	OFF	ON
	16	OFF	OFF	OFF	OFF

Form 4



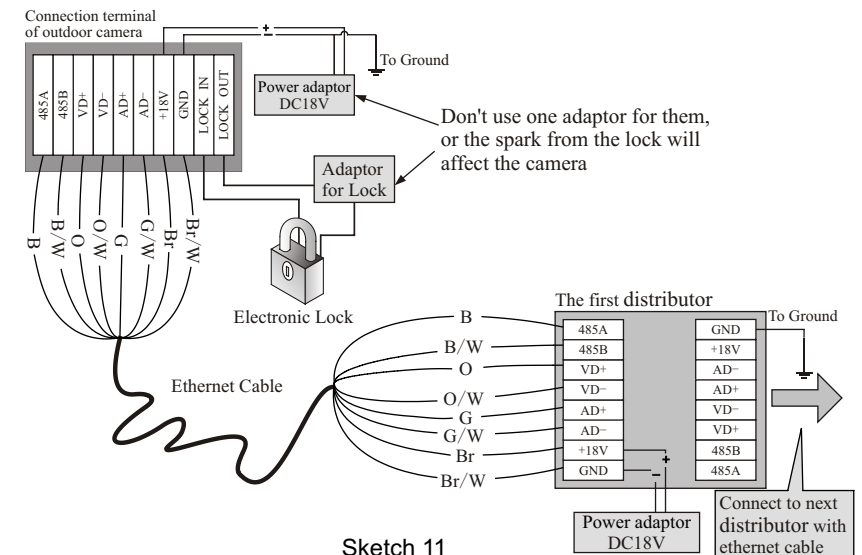
### Warning:

- Don't make the same floor no. to two distributor; otherwise it will have communication trouble.

### CONNECTING AND CONFIGURE BETWEEN INDOOR MONITOR AND DISTRIBUTOR

For example, a room No. is 903, you should set the floor No. as 9 according to the above description. Then connect the monitor to the No.3 port of the distributor. Set other rooms in the same way.

### WIRING BETWEEN OUTDOOR CAMERA AND DISTRIBUTOR



Sketch 11



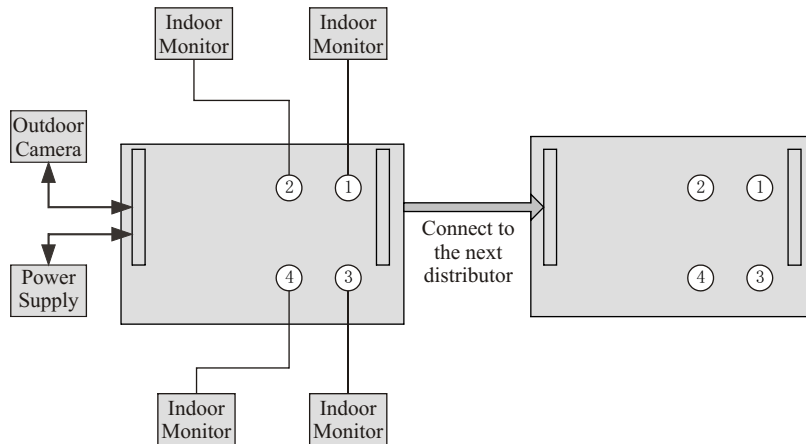


### Warning:

- Please connect the GND of the outdoor camera and distributors to the ground of the building to achieve stable function
- Please use ethernet cable and connect the wires according to the colors as Sketch 11, which will reduce the interference of noise.
- Choose extra DC18V power supply for outdoor camera. If the distance between two distributors is less 20m , use one power supply for both of them.

If there are more than 1 distributor and you want to change the room number, please refer to page 18 .

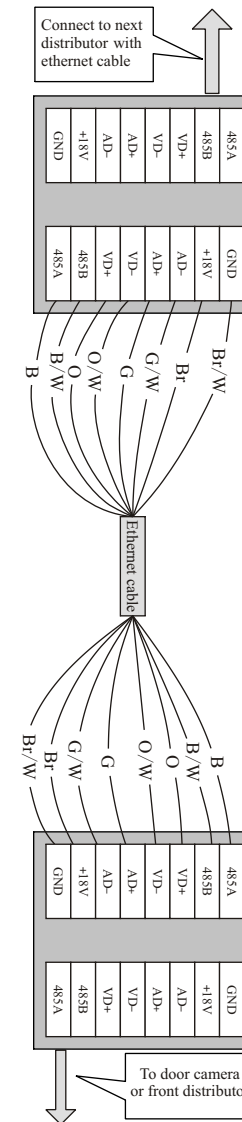
## WIRING BETWEEN DISTRIBUTOR AND INDOOR MONITOR



Sketch 12

Use 4 wires cable to connect between indoor monitors and distributor.  
If this cable is more than 20m, in order to make sure the indoor signal, please use a separate mask cable with SYV75-3 to connect video signal of indoor monitor and distributor.  
And connect the mask layer to the system GND.  
Detail wiring sequence please refer to Sketch 7, 8 and form 2.

## THE CONNECTION BETWEEN DISTRIBUTOR



Sketch 13

# OPERATION GUIDE

## Initial Room No. and Addressed Port No. setting form for KW-138EA

Room NO.	Addressed Port No.	Room NO.	Addressed Port No.	Room NO.	Addressed Port No.	Room NO.	Addressed Port No.
1	1F Port1	17	5F Port1	33	9F Port1	49	13F Port1
2	1F Port2	18	5F Port2	34	9F Port2	50	13F Port2
3	1F Port3	19	5F Port3	35	9F Port3	51	13F Port3
4	1F Port4	20	5F Port4	36	9F Port4	52	13F Port4
5	2F Port1	21	6F Port1	37	10F Port1	53	14F Port1
6	2F Port2	22	6F Port2	38	10F Port2	54	14F Port2
7	2F Port3	23	6F Port3	39	10F Port3	55	14F Port3
8	2F Port4	24	6F Port4	40	10F Port4	56	14F Port4
9	3F Port1	25	7F Port1	41	11F Port1	57	15F Port1
10	3F Port2	26	7F Port2	42	11F Port2	58	15F Port2
11	3F Port3	27	7F Port3	43	11F Port3	59	15F Port3
12	3F Port4	28	7F Port4	44	11F Port4	60	15F Port4
13	4F Port1	29	8F Port1	45	12F Port1	61	16F Port1
14	4F Port2	30	8F Port2	46	12F Port2	62	16F Port2
15	4F Port3	31	8F Port3	47	12F Port3	63	16F Port3
16	4F Port4	32	8F Port4	48	12F Port4	64	16F Port4

## Administrator menu

Press "\*" + administrator's password (default to "888888") + "#" → LED display "Ad--" and Green LED light → Enter to Administrator mode

The function of Administrator: Password setup、Unit setup、RF card management、model No. and software date display

Remark: The above operation should be operated under Administrator mode.

### Administrator mode — password setup

#### 1. Initialize unlock password

Remark: The default password is "111111"

Enter into Administrator mode → Press "11" → With a buzz and green light turns off → Initialize the unlock password

#### 2. Unlock password setup

Enter into Administrator mode → Press "12" → Both the red and green light turns on and LED displays "8888" → Input new unlock password (6 digits) → Press "#" to confirm → Press "\*" to exit

#### 3. Administrator password setup

Enter into Administrator mode → Press "13" → Both the red and green light turns on and LED displays "8888" → Input new administrator password (6 digits) → Press "#" to confirm → Press "\*" to exit

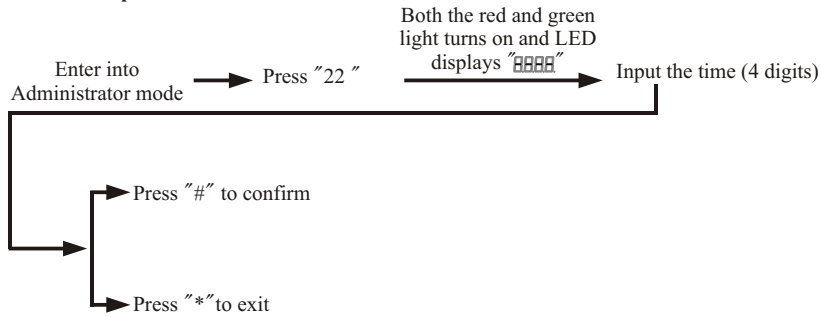
### Administrator mode — unit setup

#### 1. Change the initial Room No.

Enter into Administrator mode → Press "21" → Both the red and green light turns on → Input new room No. → With a long buzz, both the red and green light flashes 3s → Press "#" → Input the addressed port No. → Press "#" → Succeeded → Press "\*" to exit

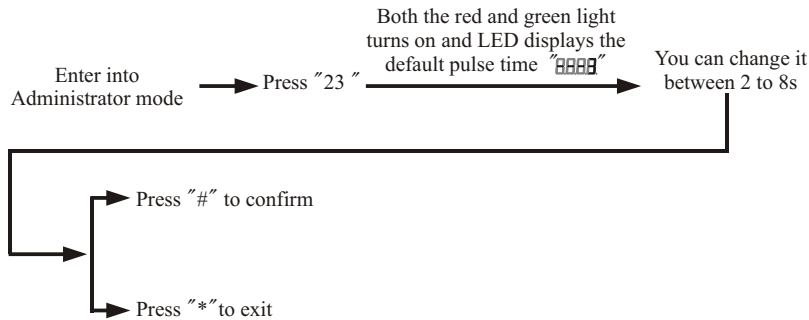
You can set the room number from 65~9999 at your will. The addressed port No. consist floor number (1 to 16) and room number (01 to 04). The room number could not be repeated.

## 2. Time setup



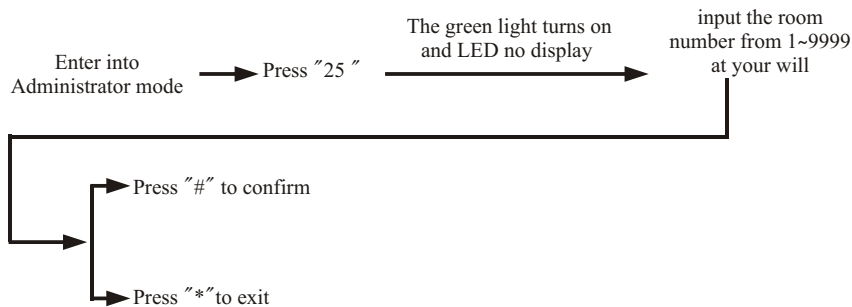
Remark: The time system is 24-hour

## 3. Door release pulse time setup



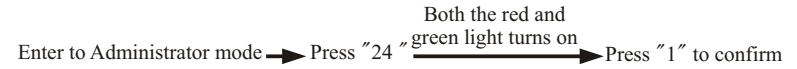
No need to power again the unit after setup.

## 4. Set up the default 1<sup>st</sup> room No.



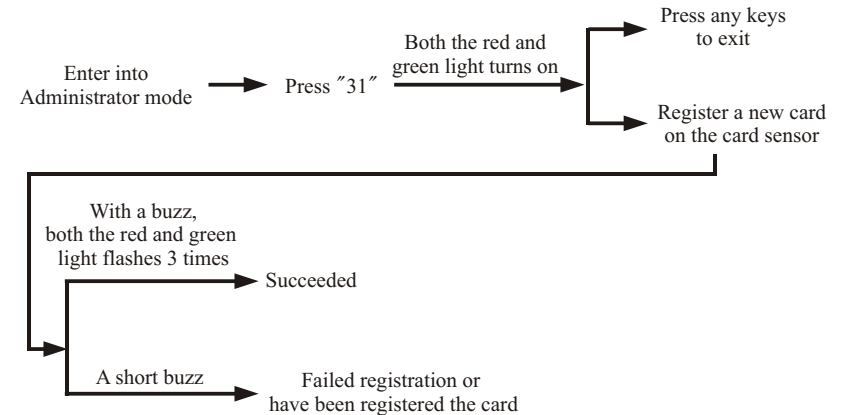
No need to power again the unit after setup.

## 5. Set the room No. to default status



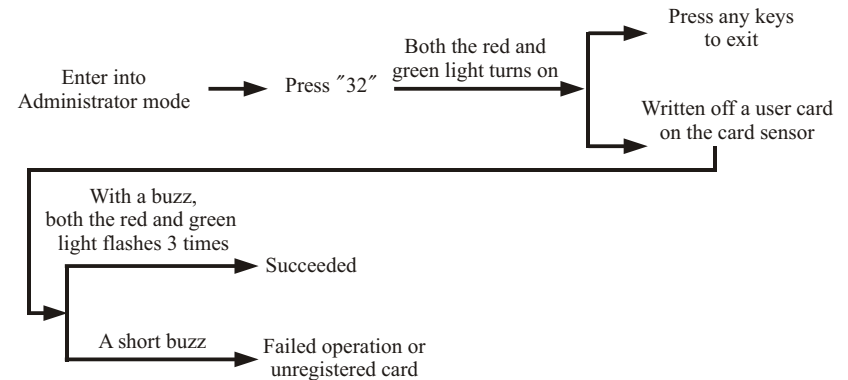
## Administrator mode — RF card management

### 1. Register new user card



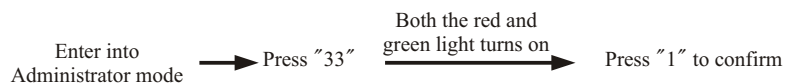
You can register the new user cards one by one.

### 2. Delete one user card

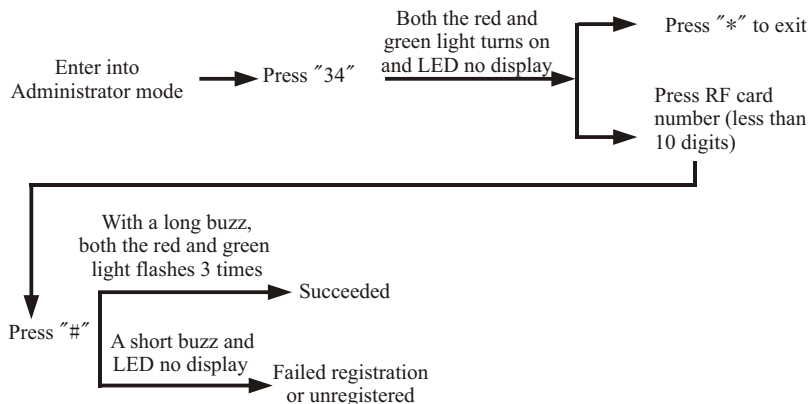


You can delete the user cards one by one.

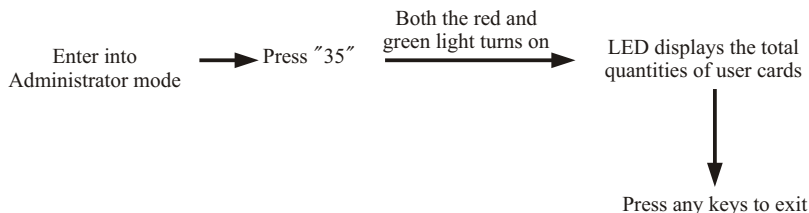
### 3. Delete all user cards



### 4. Delete user cards by RF card numbers

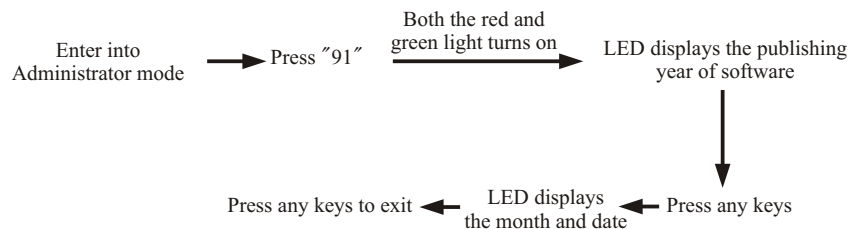


### 5. Count the registered user cards

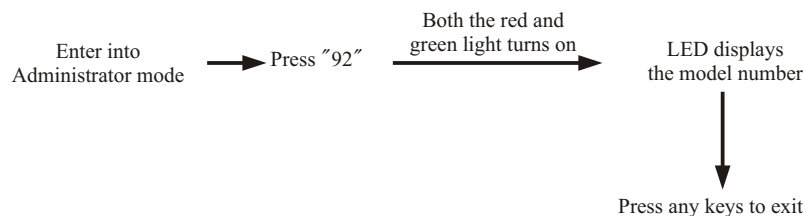


## Administrator mode — model NO. And publishing date of software display

### 1. Publishing date of software



### 2. Model NO. display



If need maintenance, the user could inform the publishing date of software to the maintenance man which will give them assistance.

## Administrator password initialization

Please contact with your dealer if you forgot the management password.

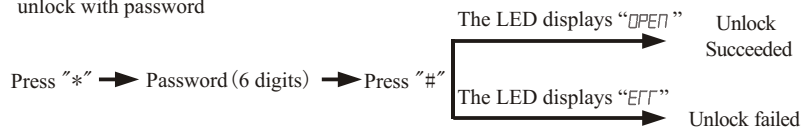
## Call and Unlock

### 1. Call

- Press the room number when both red and green LED is off condition, then press "#", the LED will display the calling room number.
- During talk, indoor could open the door by pressing OPEN button on the monitor. Or the outdoor could be opened by ID card.
- If the room number you press is over the range, the unit will sound alarm and red LED light on. (room number range: for example, the first number default to 1, the last room number would be 64. Over 01-64 is forbidden.)
- When you press the right room number (in the room number range), but if this number doesn't connect with any indoor monitor or distributor, after you press the number, about 2-3s red LED light on, with short sound then exit. (or you can directly press "\*" to exit, and do the next step.) This function also can check if the communication between the system and distributor is normal.
- During talking, press "\*" to stop current talking.

## 2. Unlock

- The door can be opened from the indoor unit while talking, the outdoor camera sound a long buzz and the LED displays "OPEN"
- unlock with password



- The door can be opened by RF card, the outdoor camera sound a long buzz and the LED displays "OPEN" (the card is not available while the unit under Administrator mode)
- The LED displays "ERR" if the card have not been registered

## 3. Guard room

### Calling

Under normal condition (both green and red LED not light), press "CALL" button to connect communication between outdoor camera and guard room. After the guard room start to talk with it, the electronic door lock would be open if guard room press "OPEN" button.

### Monitoring

Under normal condition (no priority function doing condition), press monitor button on the guard room, it can monitor outdoor condition, outdoor camera will display "GURR". Under monitor condition, press "OPEN" button to open the door.

## 4. Indoor monitoring / communication between guard room

### Indoor monitoring

Under normal condition (no priority function doing condition), press monitor button of indoor monitor, to monitor outdoor condition.

### Communication between indoor monitor and guard room

Under normal condition (no priority function doing condition), press monitor button of indoor monitor, then close monitor. Within 5s press monitor button again to build communication with guard room.

## 5. High priority communication type

Communication type	Priority rank ( smaller number indicate higher priority )
Outdoor unit call guard room / indoor monitor	1
Indoor monitor call guard room	2
Guard room monitor outdoor unit	3
Indoor unit monitor outdoor unit	4

# FALSE MALFUNCTION

## Communication malfunction

- Cable wiring and connecting problem: The connection of the communication cable, please refer to Sketch 11, 12 &13.
- Match the cable in right color, and check if the connection is proper and firm.
- The jumper of the last distributor is not short-circuited. Or more than one distributor are short-circuited. Please refer to Form 3 for details.
- Two or more distributors are set with the same floor number.

## Trouble of talk

- If there is noisy, please connect the GND of the door camera and distributors to ground which will reduce the noise.
- If you don't use Ethernet cable for the system, it may also cause noise.  
Please connect the Ethernet cable according to the right sequence (sketch 11), which will reduce the noise down.  
Remark: wrong connection sequence will cause the serious disturbance and noise.

## Low sensitivity of card reading

- Low voltage of the power supply for the outdoor unit
- The cable is too long to transmit the voltage, which will lower the voltage
- Solution: Install the camera near the power supply.

## Interference of audio and video

- Same reason as "low sensitivity of card reading".  
But it will cause this matter when the distributor's power voltage is too low.

## Image overlapped

- In Sketch 1, the grey color distributor which farthest from outdoor camera, its jumper 2 should be short circuit. Or it will cause image overlapped. Details please refer to Sketch 9, 10 and form 3.

## WORDS EXPLANATION

Unlock password	It can be 6~8 digits, begin with “*”, then is the 6 digits, ended by “#”. The password can be changed freely.
Management password	It can be 6~8 digits, begin with “*”, then is the 6 digits, ended by “#”. This password is not known to users.
Room number	It has 4 digits, the front 2 are floor no., and latter 2 are room no. If the first No. is zero, it can be ignored
Operation	The action of calling or pressing the keypad
Buzz	<ul style="list-style-type: none"> <li>• A short buzz: pressing button</li> <li>• Continuous short buzz: Error operation</li> <li>• A long buzz: Correct operation</li> </ul>

## PARAMETERS

Working Voltage	DC18V $\pm$ 2V (same voltage of outdoor camera and distributor)
Working Current	<300mA (outdoor camera); <250mA (distributor)
Working Temperature	-10℃ ~ 50℃
Voltage of camera video output	1.2vp-p (with distributor load)
Voltage of camera audio output	2vp-p
Communication mode	RS485 Half Duplex